

Amendments to the Drawings:

Please substitute the attached 3 sheets (Figs. 2, 7 and 8) of formal drawings for the informal drawings originally filed with the application. A separate Transmittal of Formal Drawings is submitted.

The drawing sheet or sheets attached in connection with the above-identified application containing Figures 2, 7 and 8 are being presented as new formal drawing sheets to be substituted for the previously submitted drawing sheet or sheets. The drawing Figures 2, 7 and 9 have been amended. Appended to this amendment are annotated copies of the previous drawing sheets which have been marked to show changes presented in the replacement sheets of the drawings. Changes to each drawing sheet have been marked in red.

REMARKS

By this amendment, Applicants have cancelled claims 2, 4-8 and 13-21 without prejudice or disclaimer, because those claims have been allowed by the Examiner during prosecution of Application Serial No. 09/669,060. Also, Applicants have amended claims 1 and 12 and added new claim 22. Accordingly, claims 1, 3, 9-12 and 22 are currently pending.

Applicant submits, in view of the above amendments and following remarks, that the rejections in final Office Action of the prior application dated May 6, 2003 (Paper No. 15) are overcome.

Rejection under 35 U.S.C. § 103(a)—Von Oepen in view of Jang

Claims 1, 3 and 9 stand previously rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,048,361 to Von Oepen (“Von Oepen”) in view of U.S. Patent No. 5,749,848 to Jang et al. (“Jang”). Applicants traverse this rejection in view of the following remarks.

Independent claim 1 recites a combination of features including “an ultrasound transducer disposed near the catheter body distal end and positioned for transmitting and receiving ultrasound signals through said hole such that both a longitudinal and an axial position of an ostium of a branch vessel of said body lumen is determined in relation to said hole.” As a result, the transducer can not only detect the axial position of an ostium of a branch vessel in relation to a body lumen, but also the radial position of the ostium with respect to the side hole located in the stent wall.

The Office Action states that Von Oepen discloses a catheter body comprising a catheter body having a distal end, proximal end, a longitudinal axis and a lumen, an expansion device disposed near the catheter body distal end and a stent disposed over the expansion device. The Office Action further states that Figure 2 shows a stent having a wall comprising struts and connectors forming multiple passageways and further comprising a side hole. The Office Action concedes, however, that Von Oepen is silent in regard to an ultrasound transducer being disposed near the catheter body distal end.

The Office Action relies upon Jang in an attempt to cure the deficiencies of Von Oepen so as to reach the claimed invention as a whole, as recited in claim 1. Jang, however, fails to cure the deficiencies identified in Von Oepen above. Jang at col. 4, line 58-67 states that the transducer is used to image the proximal and distal edges of the prosthesis, wherein the longitudinal position of the catheter may be adjusted to relocate the catheter so it is clear of the branching segment of the body passageway. Applicants, however, respectfully submit that Jang discloses determining the longitudinal position of a branching segment, and not its radial position with respect to the body passageway as required by claim 1.

Thus, the combination of references fails to teach or suggest features of the invention recited in claim 1 as a whole. Accordingly, claim 1 is allowable over the combination of relied-upon references to Van Oepen and Jang, singularly or in combination thereof.

Rejection under 35 U.S.C. § 103(a)—Van Oepen in view of Jang and Solomon

Claim 12 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Von Oepen in view of Jang, and further in view of U.S. Patent No. 5,846,204 to Solomon (“Solomon”). Applicants respectfully traverse this rejection in view of the following remarks.

Independent claim 12 recites a combination of features including “a positioning guidewire at least partially disposed in said catheter lumen, said guidewire passing through said transducer housing passageway.” Support for this feature is provided in Applicants’ originally filed disclosure, for example, in FIG. 3B.

The Office Action states the combination of Von Oepen in view of Jang is silent as to the feature of a transducer housing coupled to a transducer. The Office Action relies upon Solomon so as to reach the claimed invention as a whole, as recited in claim 12. Solomon, however, fails to cure the deficiencies identified in the combination of Von Oepen and Jang. Solomon discloses a transducer 106 within a housing 104, but as shown in FIG. 1, the guide wire is located in a channel 114 in a guide wire sleeve 108 outside of the housing 104. Solomon further states, at col. 6, lines 33-54, that the guide wire sleeve 108 must be located

on a side of the housing 104 opposite transducer 106 so that the guide wire may define an axis of rotation. As a result, the combination Van Oepen and Jang, in view of Solomon, fails to teach or suggest at least the feature of the “guidewire passing through said transducer housing passageway.” Accordingly, claim 12 is also allowable over the combination of relied-upon references to Van Oepen, Jang, and Solomon, either singularly or in combination thereof.

Dependent Claims

Claims 3, 9-11 and 22, which depend ultimately from allowable claim 1, are allowable for at least the same reason as claim 1, as well as for reciting additional features. Accordingly, Applicants respectfully submit that claims 1, 3, 9-12 and 22 are in condition for allowance.

CONCLUSION

It is respectfully submitted that entry of this Amendment is appropriate insofar as it places the Application in condition for allowance. In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of the Application and timely allowance of pending claims 1, 3, 9-12 and 22. Applicants invite the Examiner to contact Applicants’ undersigned representative if there are any issues that can be resolved via telephone conference.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2228. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to

Deposit Account No. 50-2228. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2228.

Respectfully submitted,

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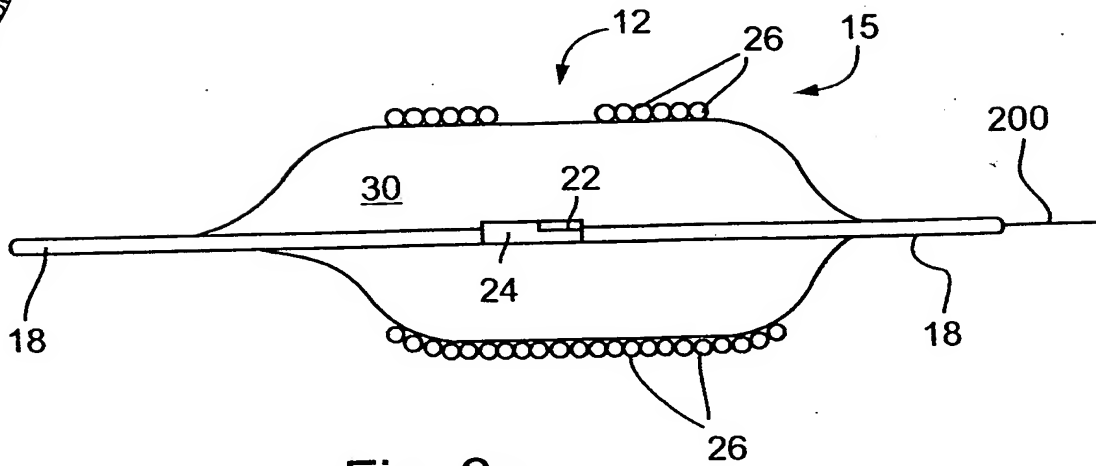


Fig. 3a

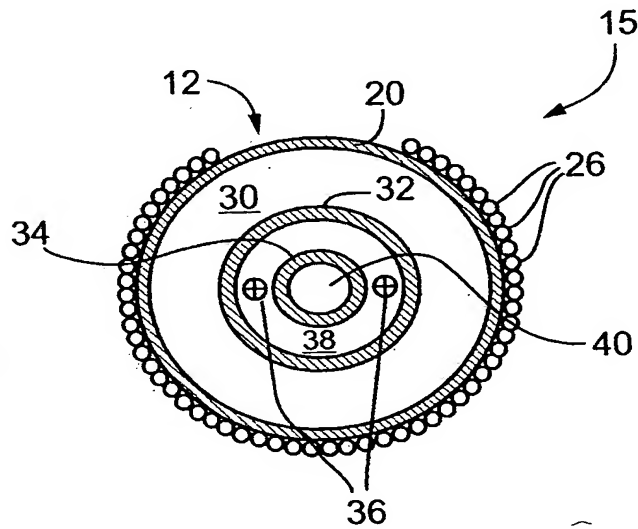


Fig. 3b

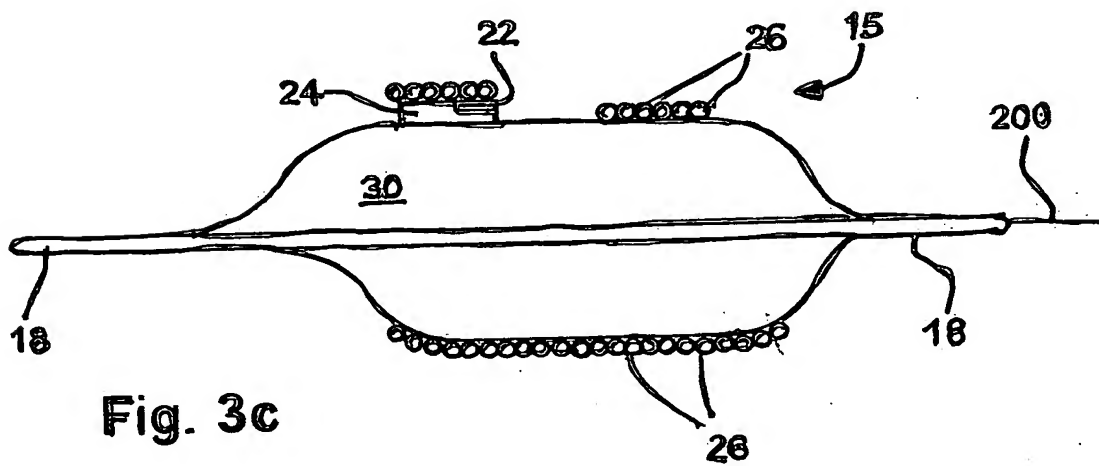


Fig. 3c



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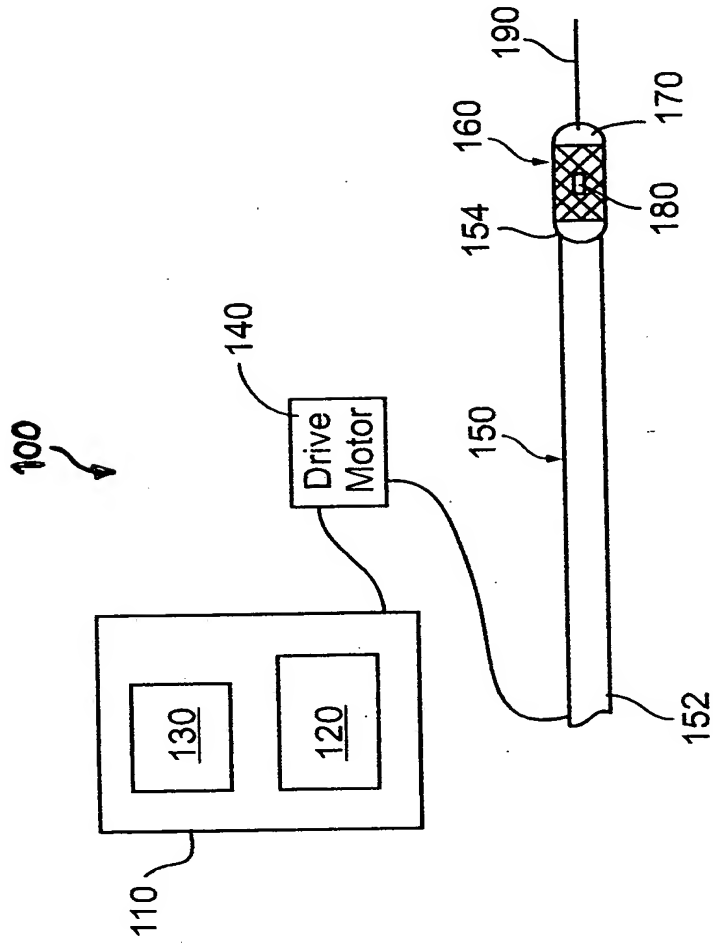


Fig. 9

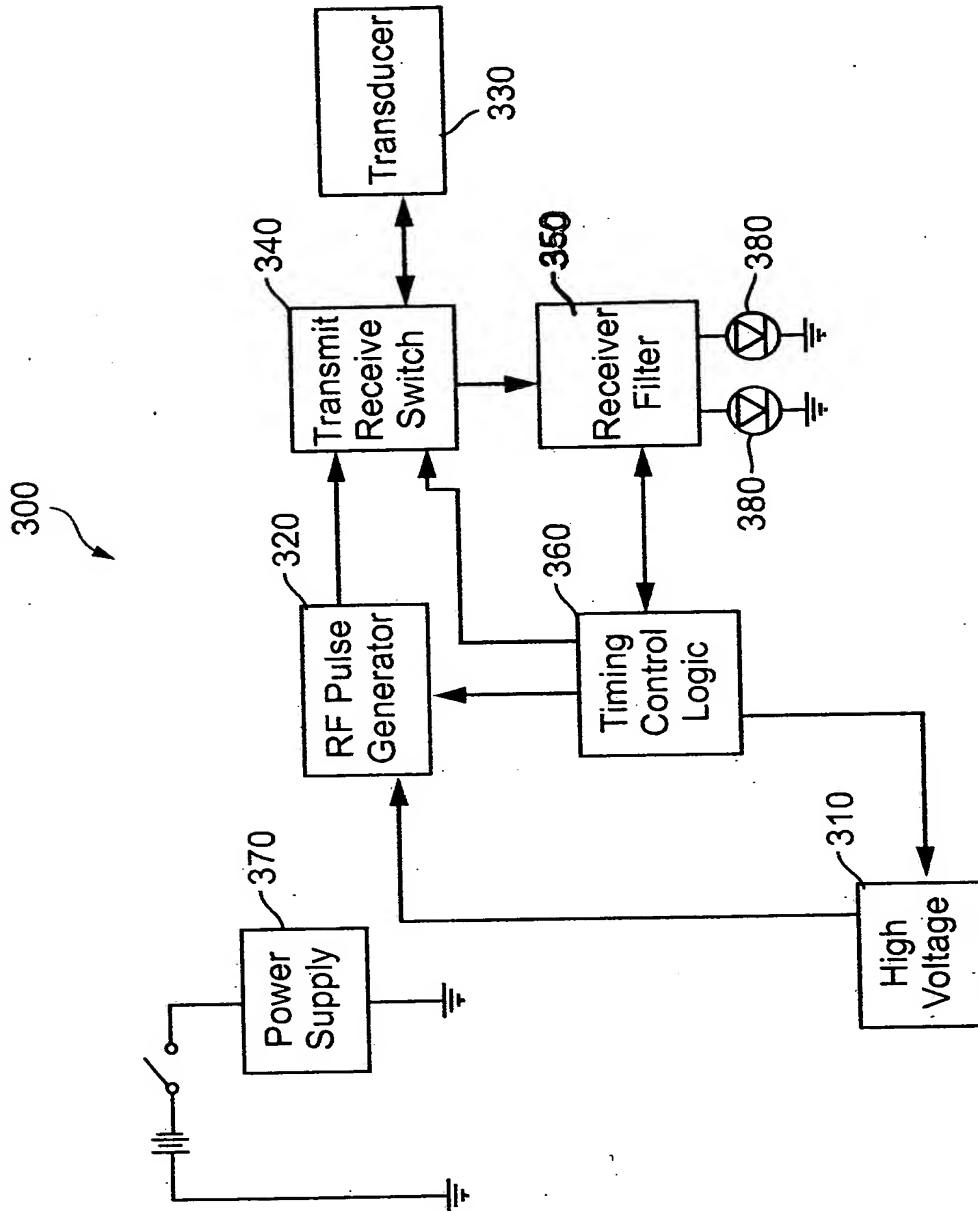


Fig. 10